

<b>Notice of Allowability</b>	Application No.	Applicant(s)
	10/087,226	ANASTASIO ET AL.
	Examiner Victor J. Taylor	Art Unit 2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 5 March 2004.
2.  The allowed claim(s) is/are 1-4,6-8,13-19 and 25-50.
3.  The drawings filed on 01 August 2002 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 6
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**DETAILED ACTION*****Response to Arguments***

1. Applicant's arguments, see amendment C, filed 12 March 2004, with respect to the amendments to the claims and the arguments presented by the applicant of record have been fully considered and are persuasive. The objection to the specification and the objection to claims 41 and 42 under 37 CFR 1.75 (c) of 28 October 2003 have been withdrawn.
2. Applicant's arguments, see amend C and the response on page 13 combined with the amendments to the claims 1 and 4, of record and the clear definition of conditional probability with the clear definitions of "posterior probability" and "sigmoid cure" in the attached copy of the CRC publication of record used in the field of mathematics and probability filed 12 March 2004, with respect to the 112 second rejection have been fully considered and are persuasive. The 112-second rejection of 28 October 2003 has been withdrawn.
3. Applicant's arguments, see the response and amendment to the claims, filed 12 March 2004 with respect to the 102 (a) rejection have been fully considered and are persuasive. The 102 (a) rejection of 28 October 2003 has been withdrawn.

***Allowable Subject Matter***

4. Claims 1-4, 6-8, 13-19, and 25-50 are allowed. The applicant cancelled claim 5, 9-12, and 20-24.
5. The following is an examiner's statement of reasons for allowance:

I. Regarding claim 1, the prior art of record does not suggest or disclose the claimed combination of method steps most particularly the claimed steps of "acquiring at least two inputs from a location in a desired environment" ... [and] "applying said inputs to a plurality of model units in a map corresponding to a plurality of locations in said environment" ... [and] approximating a conditional probability of a first target at each of said model units based on said at least two inputs" or the particularly claimed steps involved in finding a model unit from said plurality of model units with a conditional probability" or the particularly claimed steps of " choosing a location in said environment corresponding to said model unit with said highest conditional probability as a location of a next target" is not found in the cited art of record.

Claims 2-4, and 6-8 are variously dependent on the allowed independent claim 1 and are allowed for at least the reasons cited above.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

II. Regarding claim 13, the prior art of record does not suggest or disclose the method of determining spatial target probability with the claimed combination of method steps most particularly the claimed steps of "training the model neural network to reduce an error between an actual response and a desired response of the neural network to predetermine inputs from a known location in a desired environment" ... [and] "applying at least one input associated with a first target located in said desired environment" ... [and] "finding an output unit from the

plurality of output units with a highest desired value" or the particularly claimed steps involved in "choosing a location in said environment corresponding to said model unit with said highest conditional probability as a location of a next target" is not found in the cited art of record.

Claims 14, and 25-28 are variously dependent on the allowed independent claim 13 and are allowed for at least the reasons cited above.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

III. Regarding claim 15, the prior art of record does not suggest or disclose the apparatus for automatically tracking a target in a desired environment with the claimed combination of apparatus steps most particularly the claimed "one first sensor for receiving sensory inputs from the target" combined with a controller based on the sensory inputs for locating the target in the environment by using a program modeling a neural network of the brain" combined with apparatus of directional second sensor for turning to a location in the environment where the target has been located by the controller...[and wherein "the model of the neural network includes a map having a plurality of model units corresponding to a plurality of locations in the environment for receiving information from the sensory inputs associated with the target located in the environment through a plurality of input units and connections between the inputs units an the model units is not found in the cited art of record.

Claims 16-19, and 38-50 are variously dependent on the allowed independent claim 15 and are allowed for at least the reasons cited above.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

IV. Regarding claim 29, the prior art of record does not suggest or disclose a model for determining spatial target probability with the claimed combination of method steps most particularly the claimed steps of "organizing a map into a plurality of model units corresponding to a plurality of locations in a desired environment for receiving information from sensory inputs associated with a target location in said environment through a plurality of input units and connections between the input units and the model units" ...[and] the particularly claimed steps involved in "adjusting the map to increase an amount of said sensory inputs that are transmitted to the map using an unsupervised learning mechanism" and "modulating a strength of sensory inputs associated with the target based on a correlation between activities of the said map and predefined modulation units and on anti-correlation between the predefined modulation units and sensory inputs associated with the target" is not found in the cited art of record.

Claims 30-37 are variously dependent on the allowed independent claim 29 and are allowed for at least the reasons cited above.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor J. Taylor whose telephone number is 517-272-2281. The examiner can normally be reached on 8:00 to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571-272-2863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VJT  
26 May 2004

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800